

### **REMARKS**

Applicants express appreciation to the Examiner for consideration of the subject patent application. This amendment is in response to the Office Action mailed May 21, 2007. Claims 1-30 were rejected. The claims have been amended to address the concerns raised by the Examiner.

Claims 1-30 were originally presented. Claims 1-17, 19 and 24-30 remain in the application. Claims 18 and 20-23 have been canceled without prejudice. Claims 1, 19 and 27 have been amended. No claims have been added.

#### **Claim Rejections - 35 U.S.C. § 102**

Claims 1-2, 4-7, 10-13 and 15-28 (including independent claims 1, 24 and 27) were rejected under 35 U.S.C. § 102(b) as being anticipated by Schrage, U.S. Patent Pub. No. 2002/0101360.

In order to most succinctly explain why the claims presented herein are allowable, Applicants will direct the following remarks primarily to the originally presented independent claims 1, 24 and 27 with the understanding that once an independent claim is allowable, all claims depending therefrom are allowable.

Independent claim 1 has been amended to include the limitations of dependent claim 18. Claim 1 now includes the additional limitation of a plurality of audio information systems in close proximity to the system, each audio information system being configured to broadcast audio information within a unique approach path, such that the sound broadcast by each system is substantially limited to the unique approach path associated therewith, and is substantially inaudible to persons in adjacent approach paths.

Such a system can be useful for marketing in crowded locations. For example, FIG. 3 of the present application illustrates a plurality of cashier stations 14a, 14b, incorporating audio-visual display systems 10. The cashier stations can be located in relatively close proximity to each other, yet provide different audio-visual information without significant interference and confusion. Because of the focused, directional nature of the broadcast sound, one cashier station 14a can broadcast advertising or information, while the adjacent cashier station 14b can simultaneously display a movie for entertainment of customers. Because the sound is

substantially limited to the unique approach path to each cashier station, customers in adjacent lines, other customers shopping, and even the cashier, will not hear it, or will hear it at a greatly diminished level that is easier to ignore.

The ability to transmit multiple beams of substantially non-interfering audio greatly enhances the types of advertising and entertainment that can be displayed. For instance, each checkout line in a busy store may be used to display different advertisements simultaneously. This greatly increases the number of advertisements that can be displayed to customers, allowing the store to collect substantially more advertising revenues. It also enables advertisers a much greater opportunity to reach a desired target audience at a time when advertising viewership has decreased due to digital recording.

The Office Action asserts that Schrage discloses a plurality of audio information systems in close proximity to a system, as recited in claim 1, and offers claim 30 and paragraph 25 of Schrage as support. The Applicants are confused as to how claim 30 and paragraph 25 of Schrage teach or suggest the use of a plurality of audio information systems in close proximity, as recited in claim 1. The Schrage reference merely discloses a single parametric system used to direct audio to an automobile or pedestrian. The simple use of a single directional audio beam, produced either by a single speaker or a group of speakers, is not equivalent to the plurality of independent beams recited in claim 1. The single beam disclosed in Schrage could not be used to transmit separate advertisements to a plurality of checkout lines.

Additionally, there would be no need in Schrage for the use of multiple systems in close proximity, as disclosed in claim 1 of the present application. Schrage illustrates a single parametric system coupled to a single street light. It would not be possible to mount multiple systems in close proximity, as recited in the present application, since the system disclosed in Schrage is mounted to the single overhead street light. Thus, Schrage fails to disclose a system that comprises a plurality of audio information systems in close proximity that allows sound broadcast by each system to be substantially limited to a unique approach path associated therewith.

Therefore, Applicants respectfully submit that independent claim 1, as amended, is allowable, and urge the Examiner to withdraw the rejection.

Regarding independent claim 24, the claim recites the limitation of manipulating a null zone to cover a localized area to protect persons in the localized area from sound from the parametric speaker. For example, the specification instructs that a null zone may be formed around the localized area of a cashier 28 and a customer area 30, as illustrated in FIG. 2. The null zone can enable the cashier and a customer to comfortably converse without the need to talk over sound emitted by the parametric speaker.

In contrast, the Schrage reference does not disclose the limitation of manipulating a null zone to cover a localized area. Instead, Schrage only teaches emitting a beam of directed sound from a parametric speaker. Thus, the only “null zone” that can be created in Schrage is per se non-localized. Any null-zone, as taught in Schrage, would encompass the whole world with the exception of the localized sound beam. Thus, Schrage teaches against the concept of creating a null zone in a localized area.

Therefore, Applicants respectfully submit that independent claim 24 is allowable, and urge the Examiner to withdraw the rejection.

Regarding independent claim 27, the claim, as amended, recites the limitation of emitting a parametric beam from a parametric speaker toward a focal point, wherein a rate of narrowing of the beam is correlated with a rate of dissipation of sound with distance from an origin such that sound is concentrated within the beam at approximately the sound dissipation rate to provide the substantially constant sound level along the audio path.

Schrage does not teach or suggest the concept of narrowing a parametric beam at a rate that will provide a substantially constant sound envelope. Instead, Schrage merely directs a parametric beam to be focused on and demodulate at a windshield. (See Schrage, ¶¶ 78, 102, 103). The parametric beam is configured to be focused on the windshield. Additionally, the beam is designed to demodulate at the window. Prior to demodulation, only ultrasonic sound is present in the parametric beam prior to the windshield. Thus, there is no constant sound envelope taught or suggested in Schrage.

Therefore, Applicants respectfully submit that independent claim 27, as amended, is allowable, and urge the Examiner to withdraw the rejection.

Rejection of the dependent claims 2, 4-7, 10-13 and 15-19, 25-26 and 28 should be reconsidered and withdrawn for at least the reasons given above with respect to the independent

claim. The dependent claims, being narrower in scope, are allowable for at least the reasons for which the independent claim is allowable.

### **Claim Rejections - 35 U.S.C. § 103**

Claims 3, 8-9 and 29-30 (including independent claim 29) were rejected under 35 U.S.C. § 103 as being unpatentable over Schrage.

Regarding independent claim 29, the Office Action fails to make a proper rejection under 35 U.S.C. § 103. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See **MPEP § 2143 - § 2143.03**.

The Office Action does not provide a suggestion or motivation how Schrage teaches one of ordinary skill in the art to arrive at the invention recited in claim 29. Nor does Schrage teach or suggest all of the claim limitations of claim 29. Therefore, Applicants respectfully submit that independent claim 29 is allowable, and urge the Examiner to withdraw the rejection.

Rejection of the dependent claims 3, 8-9, 14 and 30 should be reconsidered and withdrawn for at least the reasons given above with respect to the independent claims. The dependent claims, being narrower in scope, are allowable for at least the reasons for which the independent claims are allowable.

### **CONCLUSION**

In light of the above, Applicants respectfully submit that pending claims 1-17, 19 and 24-30 are now in condition for allowance. Therefore, Applicants request that the rejections and objections be withdrawn, and that the claims be allowed and passed to issue. If any impediment to the allowance of these claims remains after entry of this Amendment, the Examiner is strongly encouraged to call Alex Haymond at (801) 566-6633 so that such matters may be resolved as expeditiously as possible.

No claims were added. Therefore, no additional fee is due.

The Commissioner is hereby authorized to charge any additional fee or to credit any overpayment in connection with this Amendment to Deposit Account No. 20-0100.

DATED this 21<sup>st</sup> day of August, 2007.

Respectfully submitted,

/Jason R. Jones/

Jason R. Jones  
Registration No. 51,008

THORPE NORTH & WESTERN, LLP  
Customer No. 20,551  
P.O. Box 1219  
Sandy, Utah 84091-1219  
Telephone: (801) 566-6633

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